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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,009	10/22/2003	Jeffrey C. Murray	B786.12-0002	8534

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EXAMINER

HUNTER, ALVIN A

ART UNIT PAPER NUMBER

3711

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/692,009	Applicant(s) MURRAY, JEFFREY C.	
	Examiner Alvin A. Hunter	Art Unit 3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (USPN 6247636) in view of Duclos (USPN 4444392).

In regards to claim 1, Sun discloses a club head having a crown **12**, a sole **14**, and a face **15**, wherein the crown is fabricated with a titanium alloy (See Column 2, lines 18 through 39). Sun does not disclose having a shaft mount to the club head and a grip attached to the shaft. One having ordinary skill in the art know that it is conventional to have a shaft attached to the club head and a grip attached to the shaft to facilitate the holding and swing of the club head; therefore, adding such to Sun would have been obvious. Sun does not disclose the club head having a slot on the rear portion of the crown. Duclos discloses a club head having a slot on the rear of the club (See Figure 6 and the paragraph bridging Columns 2 and 3). One having ordinary skill in the art would have found it obvious to modify Sun to have a slot on the rear surface of the crown, as taught by Duclos, in order to generate higher club head speed. Applicant does not disclose why it is critical for the slot to have a particular depth and is, therefore, deemed to be an obvious matter of design choice. One having ordinary skill in the art would have drawn therefrom Duclos that the depth of the slot would depend on the size of the club

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head wherein a larger club may desire a larger depth and length versus a smaller club head. Therefore, it would have been obvious to have the slot at any depth in order to reduce drag and to compensate for the size of the club head. Duclos discloses the slot wider at the toe portion 48 than at the heel portion 47 (See Paragraph bridging Columns 2 and 3 and Figure 4). Applicant does not disclose why it is critical for the slot to have a particular length and depth and is, therefore, deemed to be an obvious matter of design choice. One having ordinary skill in the art would have drawn therefrom Duclos that the depth and length of the slot would depend on the size of the club head wherein a larger club may desire a larger depth and length versus a smaller club head. Therefore, it would have been obvious to have the slot at any length or depth in order to compensate for the size of the club head.

In regards to claim 4, the applicant does not state why it is critical to use the claimed titanium alloys for the sole, crown, and face: therefore, one having ordinary skill in the art would have found it the selection of materials to be an obvious matter of design choice. The titanium alloy discloses by Sun would perform equally as well because it has high impact properties.

In regards to claim 5, Sun discloses a club head having a crown 12, a sole, 14, and a face 15 wherein the crown is fabricated with a titanium alloy (See Column 2, lines 18 through 39). Sun does not disclose having a shaft mounted to the club head and a grip attached to the shaft or the club head having a slot on the rear portion of the crown wherein the slot has an upper convex portion, a lower convex portion, and a middle concave portion. One having ordinary skill in the art know that it is conventional to have

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a shaft attached to the club head and a grip attached to the shaft to facilitate the holding and swing of the club head; therefore, adding such to Sun would have been obvious.

Duclos discloses a club head having a slot on the rear of the club wherein the slot has an upper convex portion, a lower convex portion, and a middle concave portion (See Figure 6 and the paragraph bridging Columns 2 and 3). One having ordinary skill in the art would have found it obvious to modify Sun to have a slot on the rear surface of the crown, as taught by Duclos, in order to generate higher club head speed. Applicant does not disclose why it is critical for the slot to have a particular depth and is, therefore, deemed to be an obvious matter of design choice. One having ordinary skill in the art would have drawn therefrom Duclos that the depth of the slot would depend on the size of the club head wherein a larger club may desire a larger depth and length versus a smaller club head. Therefore, it would have been obvious to have the slot at any depth in order to compensate for the size of the club head. Duclos discloses the slot wider at the toe portion 48 than at the heel portion 47 (See Paragraph bridging Columns 2 and 3 and Figure 4). Applicant does not disclose why it is critical for the slot to have a particular length and depth and is, therefore, deemed to be an obvious matter of design choice. One having ordinary skill in the art would have drawn therefrom Duclos that the depth and length of the slot would depend on the size of the club head wherein a larger club may desire a larger depth and length versus a smaller club head. Therefore, it would have been obvious to have the slot at any length or depth in order to compensate for the size of the club head.

In regards to claim 6, Duclos shows in Figures 4-6 a hollow crown wherein the inner surface with an upper concave portion corresponding to the upper convex portion, a lower concave portion corresponding to the lower convex portion, and a middle convex portion corresponding to the middle concave portion.

In regards to claim 7, Sun discloses the face, sole and crown fabricated with at least one titanium alloy (See Column 2, lines 24 through 39).

In regards to claim 8, the slot of Duclos inherently strengthens the titanium alloy.

In regards to claim 9, Sun discloses the club head being casted wherein the slot is preformed but also noted that it is preferred because it is more economical (See Column 3, lines 15 through 51). Therefore, it is submitted that any process be used to form the slot, including forging, would have been obvious so long as the features of the club head are attained.

2. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (USPN 6247636) in view of Duclos (USPN 4444392) further in view of Teramoto (USPN 6315678).

In regards to claim 10, Sun in view of Duclos does not disclose having a weight added to at least the upper concave portion. Teramoto discloses a club head having a weight attached to the crown of the club head (See Abstract and Figure 1d). One having ordinary skill in the art would have found it obvious to have a weight added within the upper concave portion of the crown of Sun in view of Duclos, as taught by Teramoto, in order to improve the striking power imparted on the golf ball.

In regards to claims 11 and 12, Teramoto teaches the changing of the center of gravity and stabilizing the club head (See Background of the Invention and Summary of the invention).

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (USPN 6247636) in view of Duclos (USPN 4444392) further in view of Hancock et al. (USPN 6089070).

In regards to claim 13, Sun discloses a club head having a crown 12, a sole, 14, and a face 15 wherein the crown is fabricated with a titanium alloy (See Column 2, lines 18 through 39). Sun does not disclose having a shaft mount to the club head and a grip attached to the shaft or the club head having a slot on the rear portion of the crown wherein the slot has an upper convex portion, a lower convex portion, and a middle concave portion. One having ordinary skill in the art know that it is conventional to have a shaft attached to the club head and a grip attached to the shaft to facilitate the holding and swing of the club head', therefore, adding such to Sun would have been obvious. Duclos discloses a club head having a slot on the rear of the club wherein the slot has an upper convex portion, a lower convex portion, and a middle concave portion (See Figure 6 and the paragraph bridging Columns 2 and 3). One having ordinary skill in the art would have found it obvious to modify Sun to have a slot on the rear surface of the crown, as taught by Duclos, in order to generate higher club head speed. Applicant does not disclose why it is critical for the slot to have a particular depth and is, therefore, deemed to be an obvious matter of design choice. One having ordinary skill in the art would have drawn therefrom Duclos that the depth of the slot would depend on the size

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of the club head wherein a larger club may desire a larger depth and length versus a smaller club head. Therefore, it would have been obvious to have the slot at any depth in order to compensate for the size of the club head and to reduce drag. Duclos discloses the slot wider at the toe portion 48 than at the heel portion 47 (See Paragraph bridging Columns 2 and 3 and Figure 4). Applicant does not disclose why it is critical for the slot to have a particular length and depth and is, therefore, deemed to be an obvious matter of design choice. One having ordinary skill in the art would have drawn therefrom Duclos that the depth and length of the slot would depend on the size of the club head wherein a larger club may desire a larger depth and length versus a smaller club head. Therefore, it would have been obvious to have the slot at any length or depth in order to compensate for the size of the club head. Sun discloses the club head being casted but not forged (See Column 3, lines 15 through 51). Hancock et al. discloses a club head wherein the all of the components of the club head is made by forging titanium (See Abstract). Hancock et al. notes that the disclosed forging process reduces the surface imperfection produced by casting and strengthen the club head (See Background of the Invention and Summary of the invention). Hancock et al. also teaches welding the components together after forging if the club head comprises more than one piece (See Column 5, lines 12 through 28). One having ordinary skill in the art would have found it obvious to forged the club head components versus casting, as taught by Hancock et al., in order to strengthen the material and to improve the appearance of the material.

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4. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (USPN 6247636) in view of Duclos (USPN 4444392) further in view of Hancock et al. as stated above in view of Teramoto (USPN 6315678).

In regards to claim 14, Sun in view of Duclos and Hancock et al. does not disclose having a weight added to at least the upper concave portion. Teramoto discloses a club head having a weight attached to the crown of the club head (See Abstract and Figure 1d). One having ordinary skill in the art would have found it obvious to have a weight added within the upper concave portion of the crown of Sun in view of Duclos and Hancock et al., as taught by Teramoto, in order to improve the striking power imparted on the golf ball.

In regards to claim 15, Teramoto discloses the weight being a metal, in particular steel (See Column 7, lines 10 through 17).

Response to Arguments

Applicant's arguments filed 11/17/05 have been fully considered but they are not persuasive. Applicant argues that the benefits of the size of the slot are disclosed. The examiner agrees that the applicant discloses the benefits of the slot size, however, the size of the club head is not disclosed. Applicant also notes that any skilled artisan would recognize changes that can be made without departing from the scope of the invention. This would imply that the slot size is not critical to attain the invention. The applicant does not disclose any disadvantages as to what would occur if the slot size is outside of the claimed range. It appears that the claimed size of the slot is nothing more than a preference. Also, since the structure of the claim is met it is submitted that the

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combination also meets the benefits of the slot disclosed by the applicant. For these reasons, the above action has been furnished.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Doria Iriate et al. (EP 0619125 A1) discloses a club head having a slot for improving the aerodynamics of the club head..

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Alvin A. Hunter at telephone number (571) 272-4411.

AAN

Alvin A. Hunter, Jr.

Eugene Kim

**EUGENE KIM
SUPERVISORY PATENT EXAMINER**